

**Abstract**

An internal memory controller of a network processor or other type of processor controls access of processor clients to memory instances of an internal memory of the processor. The internal memory controller includes a configurable switching element that is connectable between the clients and the memory instances, and is operative to control access of particular ones of the clients to particular ones of the memory instances. Generally, the configurable switching element is configurable to connect any one of at least a subset of the clients to each of at least a subset of the memory instances. In a first selectable configuration of the configurable switching element, a given one of the processor clients is permitted to access a first set of one or more memory instances, and in a second selectable configuration of the configurable switching element, the given processor client is permitted to access a second set of one or more memory instances, with the second set being different than the first set.